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Outlook Highlights

... February, 1949

Economic Activity Eases Off

Industrial production and employment have fallen off a bit from the record levels of recent months but economic activity continues at high levels. In December, industry was producing at a rate only slightly less than a year earlier while total employment was 1.5 million above December 1947.

Government Spending

Spending for the European Recovery Program and other foreign aid in 1949 is expected to be larger than last year. This is likely to continue to provide an important outlet for our larger supplies of export farm products.

Government spending generally is at a high level and is an important force in maintaining economic activity. The increased expenditures proposed in the President's budget message, if appropriated by Congress, would be large enough to offset a moderate reduction in private spending.

Farm Price Index Steady

Average prices received by farmers in mid-January held at the December level but were 13 percent below the record set in January 1948. Chief increases during the month were made by truck crops and fruit. Feed grains and hay were up slightly. Oil-bearing crops, food grains, and livestock and products declined.

The index of wholesale commodity prices has continued down and in early January it was 6 percent below mid-August. Nearly all of the decline is in farm products and food. Nonfarm commodities have changed little.

Gross Up, Net Down

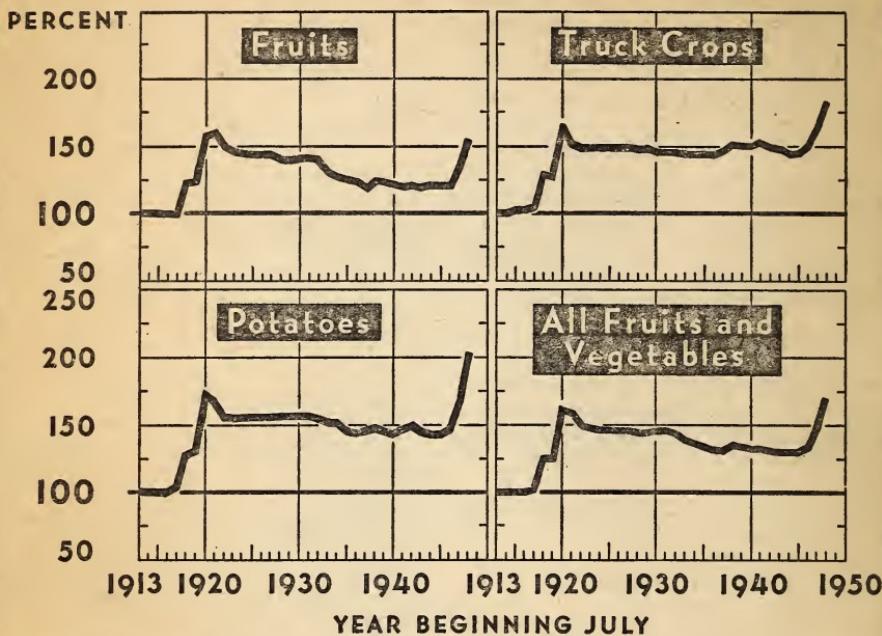
Realized net income of farm operators for 1948 is now estimated at 17.4 billion dollars, 2 percent less than in 1947. A 3 percent gain in gross farm income was more than offset by an 8 percent rise in farm production costs.

Meat Demand Lower

Demand for meat has declined from the unusually high level of last summer and is now about the same as in late 1947. A seasonal decline in meat production is likely. If demand holds at
(Continued on page 14)

FREIGHT RATES FOR FRUITS AND VEGETABLES

INDEX NUMBERS (1913=100)



BAE 47048-X

RAILROAD freight rates for fruits and vegetables increased sharply after both World Wars. From early 1946 through 1948, rates have gone up about a third and are now the highest in more than 35 years.

The railroads have applied to the Interstate Commerce Commission for permission to increase rates about 13 percent on nearly all types of traffic. For fruits and vegetables, the increase asked is 13 percent so long as it does not exceed 12 cents per hundred pounds. In response to that request, the Commission granted general interim increases which became effective in early January. In the case of fruits and vegetables this amounts to between 4 and 6 percent depending on the part of the country and providing the increase is not more than 6 cents per hundred

pounds. (Not shown on chart.) Further hearings concerning the original request of the railroads are expected to be held later.

Work on the freight rate indexes shown in the above chart was suspended by the Bureau of Agricultural Economics during the war. Since then it has been resumed with the aid of funds appropriated under the Research and Marketing Act of 1946.

These indexes differed from other measures of freight rates in that they show actual changes in rates only. They do not reflect other factors such as the distance freight is hauled or the relative volumes of the various products hauled.

Donald E. Church
Bureau of Agricultural Economics

Weather Permitting . . .

Another Big Harvest Ahead

LAST YEAR American farms produced the largest volume of crops this country has ever known. And now another crop season is just around the corner; in fact it is already begun for a record winter wheat acreage has been seeded.

The volume of crops produced in 1949 will depend largely on what the yield per acre will be—and that will not be known for sure until the harvest is over. However, even this early many factors are known that will have a bearing on yields per acre harvested this year.

Weather Favorable

Weather over most of the country has been favorable for crops so far, except in southern California and parts of Florida where abnormal freezes occurred. Soil moisture reserves are ample everywhere except in southwestern Oklahoma and most of Texas. Farm machinery is generally ample with a buyer's market prevailing for most items. Seeds of good quality are mostly ample. Supplies of fertilizer are expected to be about 5 percent above last year. Farm labor is expected to be about adequate. Price supports will be in effect on the major commodities, with such crops as peanuts, potatoes and most types of tobacco subject to acreage allotments. Demand for most farm products will be relatively strong. Our growing population—up 20 percent since 1929—is increasing the market for farm products.

There are some negative factors in the picture. The soil has been cropped heavily since the beginning of the war and needs rest in many areas. Foreign demand may weaken, if crops in Europe are as good this year as last. The possibility of widespread drought is always present. Usually, we can expect weather to seriously reduce crop yields in big areas of the country about 1 year in every 7 or 8.

If weather and the factors that affect yields are about the same as the average for the past 10 years, aggregate crop

yields per acre harvested this year should be about 37 percent above the 1923-32 predrought average. This would be the second highest of record, having been exceeded only in 1948. There is not much likelihood that yields will average as high as last year when they were 51 percent above the 1923-32 average. However, yields may be close to 1942 when aggregate yields were 36 percent above the predrought period. During the war years of 1942-46, aggregate crop yields per acre were about 31 percent above 1923-32.

Let's look at prospects for some of the more important crops. Total harvested acreage this year may be about the same as last, with the breaks toward a slightly smaller acreage. Last year's total harvested acreage was about 351 million acres—the second highest since the early 1930's. With even breaks in the weather corn should average about 36 bushels per acre, the third highest of record. On an acreage equal to that harvested in 1948, over 3 billion bushels could be expected.

Another Big Wheat Crop

Considering the December condition and estimated winter wheat acreage, it seems likely that the yield of all wheat will be about 17 bushels per acre this year. Combining the December estimated production of winter wheat with an average spring wheat crop, production of all wheat should be about 1.2 to 1.3 billion bushels. All wheat yields averaged 17.6 bushels per acre for 1941-48. From 1830 to 1940, wheat yields averaged about 13.8 bushels per acre.

Oats should average about 34 bushels per acre which is relatively good, but not outstanding. Barley should be about 25 bushels per acre, about the same as in the past 5 years. Rye might be expected to yield about 12.5 bushels per acre, sorghum grain 17 bushels, flaxseed probably 10 bushels on an acreage far below that harvested in 1948, rice 46 bushels, all hay at least 1.35 tons per acre.

Fertilizer supplies are expected to be generally ample for liberal use under cotton. Also a larger proportion of the acreage is now in the higher yielding areas. It is reasonable to expect a cotton yield about equal to the average of 1944-48.

About Same Tobacco Acreage

Tobacco yields should average about 1,180 pounds per acre. Even though flue-cured allotments for 1949 were raised 5 percent, total acreage of all tobacco is expected to be little changed from last year. Domestic cigarette consumption is at a record level. Furthermore, tobacco prices are considered generally good. Fertilizer supplies are adequate for liberal use.

Peanut allotments are about 20 percent below the 1948 acreage, which means that peanuts will tend to be grown on the better land. A yield of 700 pounds seems likely. With a possible acreage reduction in sugar beets this year and with California now the top-producing State, yields should average 13.5 to 14.0 tons per acre.

Soybeans should average around 19 bushels per acre. Improved high-yielding varieties are definitely increasing yields, although disease is becoming

more prevalent in some heavy producing areas. With growing and harvesting conditions similar to those of the past 3 years, potatoes should yield 195 bushels per acre—the second highest of record. Increased use of fertilizer, effective spray and dust programs, and increased proportion grown on irrigated lands have contributed to high yields in recent years.

More Deciduous Fruit

Production per bearing acre of each important deciduous fruit except grapes, some cherries and apricots was below average in 1948, largely the result of poor pollination weather and late spring frosts. With continued good care of orchards and with average weather, per acre yields of all deciduous fruits combined should be 10 to 15 percent above 1948. Citrus production per acre should be about 77 percent above the 1923-32 average and about the same as last year.

The stage seems set for another year of high crop yields per acre, with widespread drought being the most serious hazard that could cause yields to drop below the level of the last decade.

Charles E. Burkhead
Bureau of Agricultural Economics

1949 Prospective Crop Yields per Harvested Acre

Years	All corn	All wheat	Oats	Barley	All hay	Cotton	Soy-beans	Dry beans	Pota-toes	Tobac-co	28 crops (percent of 1923-32 average) 1
1880-99-----	Bu.	Bu.	Bu.	Bu.	Tons	Lb.	Bu.	Lb.	Bu.	Lb.	Percent
1900-19-----	25.9	13.4	27.5	23.7	-----	182	-----	-----	82	732	-----
1923-32-----	26.6	14.3	29.9	23.2	-----	185	-----	-----	96	818	-----
1937-41-----	25.4	14.4	30.2	22.6	1.19	170	12.9	667	112	770	100.0
1942-46-----	28.9	14.6	31.6	23.3	1.29	246	18.7	919	127	941	118.0
1942-----	33.9	17.6	33.0	24.0	1.38	263	18.9	909	152	1,076	131.3
1943-----	35.1	19.5	35.2	25.3	1.44	272	19.0	986	138	1,023	135.8
1943-----	32.2	16.4	29.3	21.7	1.34	254	18.3	889	142	964	124.2
1944-----	32.8	17.7	29.0	22.4	1.33	299	18.8	809	138	1,116	132.8
1945-----	32.7	17.0	36.6	25.5	1.41	254	18.0	881	155	1,094	129.5
1946-----	36.7	17.2	34.7	25.2	1.36	235	20.5	981	186	1,182	134.4
1947-----	28.4	18.4	31.2	25.5	1.36	267	16.4	979	185	1,143	129.0
1948-----	42.7	17.9	37.1	26.3	1.36	312	21.4	1,087	212	1,234	151.0
Prospective 1949 ²	36.0	17.0	34.0	25.0	1.35	273	19.0	950	195	1,180	137.0

¹ Crops included in the average, in addition to the 10 listed in the table, are sorghum grain, rye, flaxseed, rice, peanuts, sweetpotatoes, sugar beets, apples, 4 citrus fruits (oranges, tangerines, grapefruit and lemons) as a group; and 6 other fruits (peaches, pears, grapes, plums, prunes, and apricots) as a group.

² Indications in January 1949. Actual yields can be expected to be higher or lower to the extent that subsequent weather is more favorable or less favorable than average. Cotton-average for the last 5 years.

Seed Supplies for 1949 Crop Year Are Smaller Than in 1948

WITH planting time just around the corner, farmers are asking: what is the demand for various seeds likely to be and will supplies be adequate?

So many factors enter into the seed-demand picture that no forecast of it will be made here. But we have reliable estimates of supplies.

Supplies Below Average

Current supplies—1948 production plus carry-over by growers and dealers plus imports—are 6 percent smaller than last year and 15 percent below the 1943-47 average. Smaller production in 1948 and smaller stocks carried over from previous crops account for the decrease, and more than offset the greatly increased imports during the last half of 1948.

Exports of grass and legume seeds July 1–November 30 were approximately 6.6 million pounds, about the same as in the previous 3 years.

Production in the United States of 24 important seeds used mainly for hay, pasture, lawns, and winter cover, totaled 653 million pounds of clean seed in 1948, 8 percent below 1947.

The indicated 1948 production of 46 kinds of vegetable seeds totaled 173.7 million pounds, 28 percent below 1947, and 39 percent below the 1942-46 average. These figures are based on returns from 130 vegetable-seed growers who usually account for about 95 percent of the commercial production of vegetable seeds.

Following is a brief individual summary of production, supplies, and 1949 recommended goals for the six major seed crops:

Alfalfa: Clean-seed production of alfalfa for 1948 was approximately 48 million pounds, the smallest since 1942. However, current supplies of alfalfa seed in the United States, including 1948 production, carry-over and imports through December, total about 73.7 million pounds of clean seed, only 1 percent below the 1942-46 average. Farmers harvested 614,100 acres in

1948. The suggested goal for 1949 is 1,205,000 acres.

Red Clover: Unfavorable weather in many producing areas in 1948 materially reduced the red-clover seed crop, but it was much above the very short 1947 crop. Current supplies, including imports, are a little below average. A material increase in acreage is recommended for 1949 as a goal of 2,600,000 acres has been suggested.

Alsiike Clover: Production of alsike-clover seed has increased considerably in the past few years, and present supplies are 10 percent larger than last year and one-third larger than average. However, a large turn-over is expected because alsike clover can be substituted for scarce and high-priced legume seed. Suggested goal for 1949 is 180,000 acres, up about 40,000 from the acreage harvested in 1948.

Sweetclover: The supply of sweetclover seed has been low for several years. The acreage goal suggested for 1949 is almost one and four-fifths the 1948 harvested acreage, but it is only 3 percent above the 1937-46 average. Until production is increased, the United States will continue to depend on Canada for much of our planting requirements.

Big Lespedeza Crop

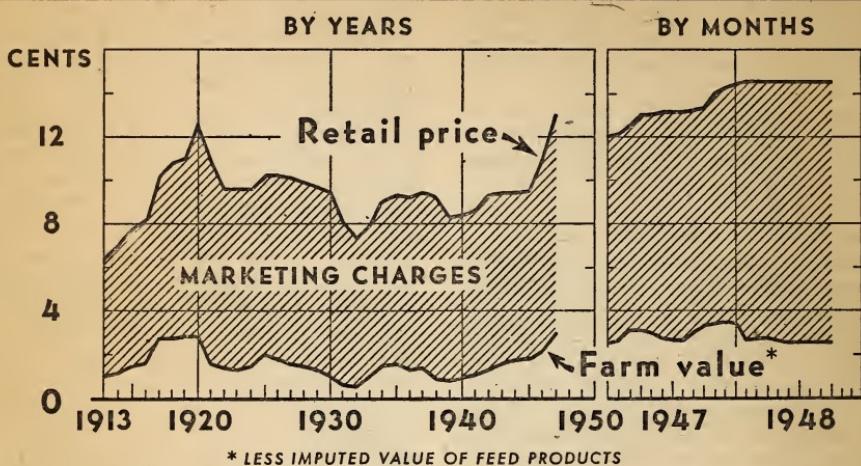
Lespedeza: The 1948 crop of lespedeza seed was the second largest on record. However, carry-over is small and total supplies of clean seed are only about 12 percent above average. The acreage goal suggested for 1949 is 33 percent greater than last year's harvested acreage.

Timothy: The 1948 crop of timothy seed was the second smallest on record, and in spite of a large carry-over from the 1947 crop, supplies are only three-fifths as large as last year. Increased production is needed to build up stocks. The suggested goal for 1949 is two and two-thirds times as large as the 1948 harvested acreage.

George C. Edler
Bureau of Agricultural Economics

MARKETING CHARGES FOR WHITE BREAD

(Retail Price per Pound, Net Farm Value of 0.912 Pound
of Wheat, and Marketing Charges)



BAE 47024A-X

Bread and Flour

Farm Share of Consumer's Dollar Falls Rapidly in 1948

PRICES farmers receive for wheat and retail prices for bread and flour tend to rise and fall with the general price level. But they do not move at the same rates and as a result the farmer's share of the consumer's dollar spent for bread or flour changes considerably from time to time.

A preliminary report on a study of farm-to-retail margins for white bread and white flour recently was made by the Bureau of Agricultural Economics with funds provided under the Research and Marketing Act. It shows that from 1939 to 1947 farmers' prices for wheat and retail prices for bread and flour rose rapidly, all of them setting new records in early 1948. However, wheat made the biggest percentage gain. In late 1947, the farmer's share of the consumer's dollar spent for flour was 59 cents. His share of the

bread dollar was 25 cents. Both were the highest on record.

This unusually favorable situation for the wheat grower was shortlived. Between January and October 1948, the average local market price for wheat slumped 30 percent; the retail price of flour fell half as much; but the retail price of bread rose 0.7 percent. Marketing charges for flour were off only two percent while those for bread rose nine percent. As a result, the farmer's share of the consumer's dollar spent for bread was down to 17 cents while his share of the flour dollar declined to 48 cents.

The differences in the factors affecting farmers' prices for wheat and retail prices for bread and flour help explain the ups and downs of the farmer's share. Wheat prices are influenced by supplies, demand for wheat for food

and feed in the United States and export demand. Since domestic use of bread and flour is relatively stable, any great increase in wheat production will cause wheat prices to fall unless excesses are sold abroad or otherwise removed from the market.

Prices of flour and bread, on the other hand, are associated more closely with industry competition for the existing market and the marketing and processing costs such as labor, transportation, storage, packaging, and profits. These marketing costs also tend to increase or decrease with the general price level but they tend to move more slowly and to a lesser extent.

Because these marketing charges change more slowly than farmers' prices for wheat, the farmer's share of the consumer's dollar spent for flour or bread usually increases more rapidly than retail prices for the two products when prices generally are going up. When the situation is reversed, the return to the farmer decreases more rapidly than marketing charges.

Among the marketing charges for bread and flour, wages and salaries are the major item. Hence, any increase or decrease in wages and salaries af-

flects total marketing costs more than would a similar change in any other item. These costs have increased generally since 1939. It is reasonable to assume they will not be reduced in the baking and milling industries unless they decline in other industries that are competing for available labor.

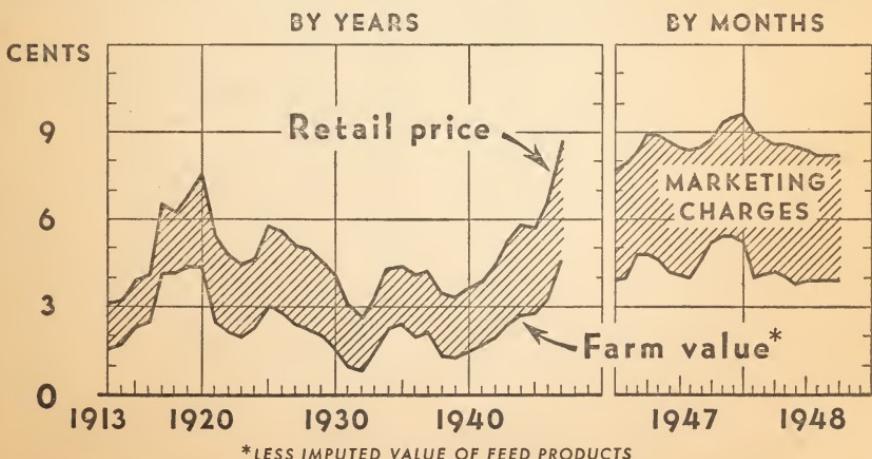
In addition to the factors mentioned above, the price of flour also is influenced by prices of feed byproducts from milling. A bushel of wheat yields about 42.6 pounds of flour and about 17.4 pounds of mill feeds. When the value of the mill feeds is high, the miller can afford to pay more for wheat in relation to the price of flour. As the price of mill feeds decreases, the value of flour increases in relation to the price the miller pays for wheat.

Milling charges accounted for about one-fourth and wholesaling and retailing about two-thirds of the marketing charges for flour from January 1947 through October 1948. Of the marketing charges for bread in the same period, baking-retailing agencies accounted for about three-fourths and the millers about one-tenth.

W. Edward Blackmore
Bureau of Agricultural Economics

MARKETING CHARGES FOR WHITE FLOUR

(Retail Price per Pound, Net Farm Value of Equivalent
Quantity of Wheat, and Marketing Charges)



MORE GRAIN for your dairy cows?

WHETHER it will pay to feed more grain to dairy cows is a question each dairy farmer must figure out for himself. But the results of feeding experiments that the Department of Agriculture made in cooperation with 10 State Agricultural Experiment Stations will help him in his calculations.¹

Whether it will pay to feed more grain to dairy cows depends on the prices of grain, hay, and milk. While it is generally recommended that farmers feed plenty of good hay and other roughage, heavier feeding of grain to cows is likely to be profitable on many dairy farms the next year or so because there is a continued strong demand for milk; larger supplies of feed grains are available, and feed prices are low in relation to milk prices.

As more grain is fed, in general, less and less milk is produced per pound of grain. Even so, if grain is cheap compared with milk it may pay to feed grain heavily. This article may help you to decide just how heavy it will pay to feed.

Two Feeding Experiments

The quality and quantity of roughage available for feeding is very important in determining the amount of grain to be fed. Cows will consume more good-quality roughage than roughage of poor quality and will get more nutritive value out of each pound. Also, when farmers have a lot of roughage available per cow and little opportunity for using it for other purposes they prefer to feed more per cow than when the amount of roughage is limited and its price is high.

Methods of feeding roughage and the amount fed per cow vary considerably. In the following, the results of only two feeding experiments are presented. In the first, cows were fed all the good

quality roughages they would eat. In the second, good quality roughage was limited to 18.5 pounds of hay or its equivalent per 1,000 pounds liveweight daily. The most profitable rate of grain feeding is considerably different in the two situations. A dairyman should decide whether either situation fits his conditions before using the information in this article.

The figures that follow apply to good dairy cows, like those in dairy herd improvement associations, giving 6,000 pounds of milk a year, or more.

All the Hay They Want

Cows with free access to good roughage: Generally, if cows are allowed to have as much good hay or other roughage as they want and then the grain ration is increased they eat more grain but eat less hay and other roughage. The figures show that for each additional 100 pounds of grain fed 60 to 75 pounds less hay is consumed.

Total milk production is increased but as you feed more grain you get less and less milk per additional pound of grain. This is partly due to the fact that this grain replaces some roughage but it is also true that with heavier feeding cows make less efficient use of the nutrients in their feed.

For instance, cows fed 1 pound of grain for each 6 pounds of milk will produce 97 pounds more milk for each additional 100 pounds of grain. Cows fed heavier than one to six the year around will produce less milk per 100 pounds of additional grain as shown below.

Level of feeding grain	Pounds milk from 100 pounds more grain
1:6-----	97
1:4-----	77
1:3-----	59
1:2½-----	45
1:2-----	31

This information could be used to figure out whether it will be profitable

¹ The results of this experiment are reported in Technical Bulletin 815, "Input-Output Relationships in Milk Production," a study conducted cooperatively by the Bureau of Agricultural Economics, The Bureau of Dairy Industry and 10 State Experiment Stations. This bulletin is out of print.

for a dairyman to feed additional grain to his cows. Let's assume that he has a herd of medium size cows testing 4 percent butterfat and that he is feeding his herd the year around about 1 pound of grain to 3 pounds of milk; and that the price of milk is \$4.25 per hundred pounds. Grain is \$3 per hundred pounds and hay is \$25 per ton.

Figuring Returns

He would first calculate the value of the additional milk by multiplying the pounds of additional milk (59 pounds in this case) by the current farm price for milk. He would figure on 68 pounds of hay or about one-thirtieth of a ton saved for each additional 100 pounds of grain fed. His calculation:

Value of 59 pounds additional milk at \$4.25 per hundred pounds -----	\$2.51
Value of hay saved (68 lbs. at \$25 per ton) -----	.83
Total Credits-----	3.34
Cost of 100 pounds grain fed-----	3.00
Return per \$1 of additional grain fed (\$3.34 divided by \$3.00)-----	1.11

So in this instance, it would pay to feed more grain. Any return higher than \$1 per \$1 of grain fed is usually

profitable, because any extra labor or other costs are too small to count.

How much more grain would it pay to feed? The general rule is that increasing grain feeding will pay up to the point where the cost of the last increase in the grain ration just equals the value of the additional milk produced. Figuring this "break-even point" in grain feeding for cows of different size and butterfat test is easy by using table 1. Most profitable levels of feeding shown in this table were figured by the method just described.

How To Use Table 1

In using the table, first find the pounds of milk it takes to pay for 100 pounds of grain. If grain is \$3.00 a hundred pounds and milk is \$4.25 a hundred or $4\frac{1}{4}$ cents a pound, it takes 71 pounds of milk to pay for 100 pounds of grain. Go down the first column of table 1 until you come to 70 then across to the column that fits your conditions. For example, if hay is worth \$25 a ton (6 times the price of milk per hundred pounds) and your cow is medium sized, testing about 4 percent butterfat, then column 6 is the one to use. In that column you find 2.7 opposite 70 in the first column. Therefore the most profitable rate of feeding is 1 pound of grain to about 2.7 pounds of milk. But

Table 1.—Most Profitable Rate of Grain Feeding¹

Pounds of milk equal in value to 100 pounds of grain or mixed feed (1)	Feeding one pound of grain to the pounds of milk given below					
	Hay price per ton 3 to 4 times milk price per 100 pounds			Hay price per ton 5 to 7 times milk price per 100 pounds		
	Large cows testing $3\frac{1}{2}\%$ fat (2)	Medium cows test- ing 4% fat (3)	Small cows testing 5% fat (4)	Large cows testing $3\frac{1}{2}\%$ fat (5)	Medium cows test- ing 4% fat (6)	Small cows testing 5% fat (7)
120-----	7.7	8.2	8.5	6.3	6.5	6.6
110-----	6.1	6.2	6.3	5.2	5.2	5.2
100-----	5.0	5.0	5.0	4.4	4.3	4.2
90-----	4.2	4.1	4.1	3.7	3.6	3.4
80-----	3.7	3.5	3.4	3.3	3.1	2.8
70-----	3.2	3.1	2.8	2.7	2.7	2.4
60-----	2.8	2.6	2.4	2.4	2.3	2.1
50-----	2.4	2.3	2.1	2.1	2.0	(2)
40-----	2.0	(2)	(2)	(2)	(2)	(2)

¹ For cows of different size and butterfat test getting all the good hay or its equivalent in other roughage they will eat with different relative prices of grain and hay to milk.

² All they will eat without injury.

Table 2.—Most Profitable Level of Grain Feeding¹

Pounds of milk equal in value to 100 pounds of grain or mixed feed ²	Feeding one pound of grain to the pounds of milk given below		
	For large cows testing 3½% fat	For medium cows testing 4% fat	For small cows testing 5% fat
175	Pounds 4. 1	Pounds 4. 0	Pounds 3. 9
160	3. 7	3. 5	3. 4
145	3. 4	3. 2	3. 1
130	3. 2	3. 0	2. 8
115	3. 0	2. 8	2. 6
100	2. 9	2. 7	2. 4
85	2. 7	2. 5	2. 2
70	2. 4	2. 3	2. 1
55	2. 1	2. 0	(3)

¹ For cows of different size and butterfat test where roughage is limited to 18.5 pounds of good hay or its equivalent per 1,000 pound cow daily with different relative price of grain to milk.

² The figures in this column are also the pounds of additional milk obtained from feeding 100 pounds additional grain at the specified rates of feeding.

*All they will eat without injury.

If hay is cheap and abundant 1 pound of grain to 3.1 pounds of milk would be the answer (column 3). If it is a large cow, testing 3½ percent butterfat, it would be 1 to 2.8 (column 5), or 1 to 3.2 (column 2), depending on the price of hay.

Limited Roughage

Cows fed limited quantities of good roughage: But what if you do not have enough roughage to give the cows all they will eat as is the case on many farms? Suppose you give them about 18.5 pounds of good hay a day per 1,000 pounds liveweight (20 pounds of average hay), or the equivalent in other roughage. (Figure that 3 pounds of silage are equal to 1 pound of hay.)

If you feed additional grain, your cows will eat about the same amount of hay or other roughage as before, so you will not save in hay and no saving will appear in the calculation. But you will get more milk from 100 pounds of additional grain than if the cows had all the hay they would eat because the cows are not getting as much feed in total and also because they do not reduce their hay consumption when the grain ration is increased.

Using Table 2

From table 2 you can determine the additional milk that you can expect

from each 100 pounds of additional grain fed. If you are feeding your herd (assuming medium-size cows) at the 1 to 2.5 level and add 100 pounds of grain you may expect 85 pounds of additional milk (first column, table 2). This compares with only 45 pounds when cows have all the roughage they can eat.

What is the most profitable level of feeding cows where the feeding of roughage is limited? This also is shown in table 2. Assume that milk sells for \$4.25 a hundred, or 4¼ cents a pound, and grain is worth \$3 a hundred pounds. Then 100 pounds of grain will equal in value 71 pounds of milk ($3 \div .0425 = 71$). Running down the first column in table 2 to 70 (the nearest figure to 71) and reading across you will find three different rates of grain feeding given. If your cows are medium sized testing 4 percent butterfat, for example, your most profitable level of feeding would be 1 pound of grain to 2.3 pounds of milk.

Higher Level Unprofitable

Now let us see if feeding your medium-size cows at the one to two level would be less profitable, assuming the same prices. You only obtain 55 pounds of additional milk from 100 pounds of additional grain when feeding at the one to two level. (See footnote, table 2.)

Value of 55 pounds of additional milk at \$4.25-----	\$2.34
Cost of 100 pounds of additional grain at \$3-----	3.00
Hay saved (none)-----	

Loss on each 100 pounds additional gain-----	.66
--	-----

In this case, it is not as profitable to feed cows 1 to 2 as 1 to 2.3 because money was lost on the last few pounds of grain fed.

In the experiments that provided the figures used in this article the cows were barn fed throughout the lactation period, but the figures will apply to pasture feeding as well. The results shown for good cows that have access to unlimited roughage (table 1) probably would apply when feeding grain to

cows on pasture if the pastures are good to excellent. The results shown in table 2 probably would apply if the pasture is only fair.

On Poor Pastures

If the pasture is poor, then 100 pounds of additional grain probably would increase milk production more than is shown in table 2. Farmers usually cut down their rate of feeding grain to dairy cows during the summer when the cows are on pasture. It probably would pay to feed grain heavily right through the 1949 pasture season.

John W. Klein
Ralph D. Jennings
Bureau of Agricultural Economics

Flies Developing Resistance to DDT

THREE is now definite evidence that house flies are developing resistance to DDT in many parts of the country.

Reports received by the Bureau of Entomology and Plant Quarantine indicated that while DDT was giving satisfactory control of house flies generally, it was failing to control the pest satisfactorily in several areas of the United States.

Federal entomologists collected wild flies from dairies near Orlando, Fla., where DDT was first tested in this country for fly control as early as 1943. Preliminary results of tests with these and with certain other strains of house flies from other parts of the country have shown that there are strains of flies which now require a longer period of contact with DDT to kill them. This indicates the development of some resistance by house flies to the insecticide under field conditions.

The entomologists are not ready to say that resistance of the flies is the most important factor explaining DDT failures this year. This factor must, however, be watched and studied further.

A number of reasons may enter into the lack of satisfactory house fly control through public use of DDT. Inadequate sanitation and extensive breeding of flies this past summer, they say, may be a major factor. Unsatisfactory or inadequate applications of the insecticide may be another. Another factor is that most apparent failure of DDT to control flies came during extremely hot weather of last August while DDT is most effective in cool weather.

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The ITO Charter and Farmers

THE PROBLEMS of international trade present a great challenge to United States leadership among the nations. This is particularly true as concerns farm products that the United States normally exports in large volume.

During the 1930's most farm products exported from the United States were in world surplus. The importing countries put up tariffs and quota systems to protect their farmers. The exporting countries responded with subsidies. Many of them made bilateral deals with importing countries. "Cut-throat" competition was widespread. Governments in most agricultural producing countries imposed controls over their agricultural trade. United States farm exports declined seriously.

During the war, our farm production expanded more than one-third. We exported at an unprecedented rate, even shipping large quantities of some items we normally import such as cheese and dried eggs. Some of the importing countries also expanded farm production. By the end of the war, it appeared that postwar surpluses might be even worse than those of the 1930's.

Government Controls

Moreover, many important countries determined to maintain tight government control over their agricultural trade. Economic blocks excluding us began to form again.

Added to all this was the effect of the dollar shortage. Foreign countries faced the prospect of having little to sell the United States for a few years after the war. They began to think in terms of permanent discrimination against United States agriculture.

On Pearl Harbor Day, 1945, the United States proposed to the nations of the world that they formulate and adopt an international trade charter. Less than 2 years later, following a series of preparatory meetings, 57 countries met at Havana, Cuba, in a conference to negotiate such a document. In March of 1948, 54 countries reached agreement and signed the

Havana Charter for an International Trade Organization.

When ratified by 20 governments, the Charter will go into effect for those ratifying it. Most nations are waiting to see what we will do. Australia, for instance, recently ratified contingent on ratification by the United States and the United Kingdom.

Purpose of Charter

The broad purpose of the Charter is to promote the expansion of international trade, to encourage the economic development of backward areas, and to improve standards of living throughout the world. The Charter would set up a code of fair dealing in international trade calculated to avoid cut-throat competition and to establish multilateral, nondiscriminatory trading. It would encourage countries to reduce artificial trade barriers. Perhaps most important of all for agriculture, it would require governments to sit down and discuss their trade policies with other countries who might be injured by them.

The Charter recognizes that, although the sixty-odd countries of the world have different economic structures, problems and objectives, they cannot live separate economic existences. They have to deal with each other. The Charter seeks to establish conditions which will enable them to live and trade with each other and to resolve their trade differences on a peaceful, cooperative basis.

Some of the Charter provisions of most significance to American farmers are those concerning equal access to markets, and those concerning quotas, subsidies, and commodity agreements.

The Charter embodies the general principle of equal access to foreign markets. The principle applies not only to free private trade but also to the various forms of government intervention, including complete state trading. The trade of each foreign country must be given the same chance as that of every other foreign country to compete for any country's import mar-

ket, in accordance with customary business practice. There are exceptions for countries in balance-of-payment difficulties, but the exceptions may be used only to the extent that the balance-of-payment difficulties actually require that they be used. There are exceptions for existing tariff preferences, but these preferences may not be increased, and some important preferences have already been reduced or eliminated in the general agreement on tariffs and trade concluded in the Geneva negotiations as part of the preparatory work for the Charter.

Important Exceptions

Quotas on imports are banned in principle, but there are some important exceptions for quotas associated with agricultural programs of the United States type that include production or marketing controls or surplus-disposal programs. In these cases, the use of the quotas must be only such as is necessary to protect the programs with which they are associated and the quotas may not be used to reduce the proportion of the market usually supplied by imports. Any member injured may protest and must be consulted. Thus if the United States has a program restricting marketings to prevent undue price declines, the Charter permits quotas limiting imports by the same proportion that marketings are limited, thus preventing exporters from taking advantage of the favorable market situation created in the United States by the program.

Export subsidies are also banned in principle. Again, however, there are exceptions which apply to agricultural programs when world market prices fall below the domestic price-support level. The subsidy provisions of the Charter, in fact, permit agricultural export subsidies whenever a member considers that its interests would be seriously prejudiced if such subsidization were not employed. The only specific limitation concerns the extent to which the subsidy may push exports of a commodity at the expense of other exporting countries. It may not be used in such a way as to capture more than a fair share of world trade in the commodity to which it is applied. The de-

termination of the fair share, in cases of dispute, is left up to the organization, in which the United States will, of course, play an important role. Another limitation arises out of the requirement to consult with any country that considers itself injured by the subsidy.

These limitations apply to any form of subsidy, whether a "domestic" subsidy such as the British and Canadians usually use or an export subsidy.

Quotas, subsidies, and other government measures, direct or indirect, designed to influence international trade in agricultural products are associated to a very important extent with the problem of world surpluses. The Charter recognizes this fact and also that certain types of commodities are affected by the special difficulties of adjustment between demand and supply which result in surplus situations and have been an important factor in the trend toward government intervention in agricultural trade. The Charter has an entire chapter on intergovernmental agreement as a means of dealing with commodities affected by such special difficulties. There is a set of rules that must be observed in such intergovernmental commodity agreement. There must be equal representation of importing and exporting countries, full publicity, an opportunity for any member country of the International Trade Organization to participate, and provisions calculated to deal with the surplus situation so as to make continuation of the intergovernmental agreement unnecessary as soon as practicable.

Not a Cure All

The Charter is not a panacea for all of the enormous problems to be faced in the reconstruction of trade in a world of prosperous, peace-loving nations. It is intended, however, to be a framework within which member countries can consider the problems of the trade which links their economies on the basis of agreed rules for fair dealing.

Robert B. Schwenger
Office of Foreign Agricultural Relations

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		Jan. 15, 1948	Dec. 15, 1948	Jan. 15, 1949	Parity price, Jan. 15, 1949
	August 1909-July 1914	January 1935- December 1939				
Wheat (bushel).....	dollars..	0.884	0.837	2.81	2.05	2.02
Rye (bushel).....	do.....	.720	.554	2.47	1.47	1.44
Rice (bushel).....	do.....	.813	.742	3.00	2.50	2.47
Corn (bushel).....	do.....	.642	.691	2.46	1.23	1.25
Oats (bushel).....	do.....	.399	.340	1.27	.765	.900
Barley (bushel).....	do.....	.619	.533	2.06	1.13	1.15
Sorghum grain (100 pounds).....	do.....	1.21	1.17	3.77	2.19	2.22
Hay (ton).....	do.....	11.87	8.87	18.70	19.10	19.80
Cotton (pound).....	cents.....	12.4	10.34	33.14	29.63	29.27
Cottonseed (ton).....	dollars.....	22.55	27.52	95.10	68.80	65.70
Soybeans (bushel).....	do.....	1.96	.954	4.11	2.36	2.27
Peanuts (pound).....	cents.....	4.8	3.55	10.1	10.5	11.9
Flaxseed (bushel).....	dollars.....	1.69	1.69	6.71	5.75	5.75
Potatoes (bushel).....	do.....	* 697	.717	1.86	1.54	1.66
Sweetpotatoes (bushel).....	do.....	.878	.807	2.17	2.19	2.36
Apples (bushel).....	do.....	.96	.90	* 2.01	2.54	2.85
Oranges on tree (box).....	do.....	* 2.29	1.11	.72	.99	1.23
Hogs (hundredweight).....	do.....	7.27	8.38	26.70	21.10	20.10
Beef cattle (hundredweight).....	do.....	5.42	6.56	21.50	20.50	20.00
Veal calves (hundredweight).....	do.....	6.75	7.80	24.40	24.90	25.10
Lambs (hundredweight).....	do.....	5.88	7.79	22.20	21.90	21.90
Butterfat (pound).....	cents.....	26.3	29.1	87.7	65.7	65.7
Milk, wholesale (100 pounds).....	dollars.....	1.60	1.81	5.09	* 4.80	4.61
Chickens (pound).....	cents.....	11.4	14.9	26.3	30.7	30.7
Eggs (dozen).....	do.....	21.5	21.7	48.7	52.8	47.1
Wool (pound).....	do.....	18.3	23.8	40.7	45.7	48.3
						45.4

¹ Comparable base price, August 1909-July 1914.

² Comparable price computed under the Steagall amendment.

³ 1919-28 average of \$1.12 per bushel used in computing parity price.

⁴ Revised.

⁵ 1919-28 average for computing parity price.

⁶ Adjusted for seasonal variation.

Outlook Highlights

(Continued from page 1)

the January level, higher prices for hogs and lower grades of cattle is probable. Prices of better grade cattle may hold fairly steady.

Retail prices and marketing costs for meat set new records in 1948. Both were up about the same amount from 1947. However, the farmer's share of the consumer's meat dollar slipped off slightly to 69 cents. In 1939, it was 51 cents.

Laying Flock Smaller

About 3 percent fewer layers were on farms January 1 than a year earlier. During the first half of this year, however, a higher rate of lay is likely to keep total farm egg production about the same as in the first six months of 1948. Egg prices also are expected to be about the same as last year.

Farmers' intentions to purchase turkey poult at the beginning of this year indicate that 25 percent more turkeys

may be raised than in 1948. But marketings in quantity will not begin until the third quarter and prices are likely to stay high for several months.

Far Below Record

Farmers were getting only about half as much, on the average, for feed grains in January as a year earlier when prices hit new peaks. Feed grain prices are expected to continue to register seasonal gains for a few months but will continue well below a year earlier.

Cotton Exports Up

More than twice as much cotton had been exported through November of this season than in the same period of 1947-48. ECA countries, not including China, took two-thirds of the 960,000-bale total. Domestic mill demand continues moderately smaller.

World Diet Improving

Thanks to a recovery in European food production and large crops in

(Continued on page 16)

Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39 = 100) ¹	Total income of industrial workers (1935-39 = 100) ²	1910-14=100					Index of prices received by farmers (August 1909-July 1914=100)				
			Average earnings of factory workers per worker	Whole-sale prices of all commodities ³	Prices paid by farmers			Farm wage rates ⁴	Livestock and products			
					Com-modities	Com-modities, interest, and taxes	Dairy products		Poul-try and eggs	Meat animals	All live-stock	
1910-14 average	58	50	100	100	100	100	100	100	101	101	101	101
1915-19 average	72	90	152	158	151	150	148	148	154	163	158	158
1920-24 average	75	122	221	160	161	173	178	159	163	123	142	142
1925-29 average	98	129	232	143	155	168	179	160	155	148	154	154
1930-34 average	74	78	179	107	122	135	115	-105	94	85	93	93
1935-39 average	100	100	199	118	125	123	118	119	109	119	117	117
1940-44 average	192	238	325	139	150	147	212	162	146	171	164	164
1945 average	203	291	403	154	180	172	350	197	196	210	203	203
1946 average	170	275	392	177	202	193	378	242	198	256	240	240
1947 average	187	332	440	222	246	231	478	269	221	340	293	293
1948 average	192	-----	-----	241	264	249	432	297	236	371	320	320
1948												
January	103	359	466	242	206	251	425	313	231	379	328	328
February	104	354	462	235	263	248	-----	307	218	331	300	300
March	191	358	466	236	262	247	-----	298	212	342	302	302
April	188	341	463	238	264	249	420	296	214	347	304	304
May	192	350	464	239	265	250	-----	291	211	361	309	309
June	192	361	472	243	266	251	-----	291	221	390	328	328
July	186	361	474	246	266	251	431	300	234	417	344	344
August	191	376	483	247	266	251	-----	305	247	411	344	344
September	192	380	483	246	265	250	-----	302	253	408	343	343
October	195	487	241	263	249	427	289	260	373	323	323	323
November	194	486	239	262	248	248	284	272	351	313	313	313
December	-----	-----	237	262	248	248	283	260	339	305	305	305
1949												
January				260	248	441	275	240	330	295		

Year and month	Index of prices received by farmers (August 1909-July 1914=100)									All crops and live-stock	Parity ratio ¹		
	Crops												
	Food grains	Feed grains and hay	To-bacco	Cotton	Oil-bearing crops	Fruit	Truck crops	All crops					
1910-14 average	100	101	102	96	98	99	-----	99	100	100	100		
1915-19 average	193	164	187	168	187	125	-----	168	162	162	103		
1920-24 average	147	126	192	189	149	148	143	160	151	151	83		
1925-29 average	140	119	172	145	129	141	140	143	149	149	89		
1930-34 average	70	76	119	74	72	94	106	86	90	90	69		
1935-39 average	94	95	175	83	106	83	102	97	107	107	84		
1940-44 average	123	119	245	131	159	133	172	143	154	154	103		
1945 average	172	161	366	171	215	220	224	201	202	202	117		
1946 average	201	195	382	228	244	226	204	226	233	233	121		
1947 average	271	246	380	261	335	194	249	261	278	278	120		
1948 average	250	249	387	259	326	157	238	250	287	287	115		
1948													
January	322	318	377	267	377	135	320	284	307	322			
February	251	261	374	248	333	136	320	257	279	112			
March	260	284	372	256	339	140	295	262	283	115			
April	268	291	371	275	351	142	340	276	291	117			
May	261	252	370	284	357	141	262	267	289	116			
June	249	273	370	284	364	155	213	261	295	118			
July	240	256	370	266	366	172	213	253	301	120			
August	227	235	386	245	310	183	172	236	293	117			
September	223	223	406	250	282	185	150	231	290	116			
October	226	192	418	251	270	174	178	227	277	111			
November	234	181	412	246	283	157	186	224	271	109			
December	236	184	415	239	283	164	209	228	268	108			
1949													
January	232	187	412	236	274	180	282	238	268	108			

¹ Federal Reserve Board represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

² Computed from data furnished by Bureau of Labor Statistics and Interstate Commerce Commission on pay rolls in mining, manufacturing, and transportation; monthly data adjusted for seasonal variation. Revised August 1948.

³ Bureau of Labor Statistics.

⁴ Monthly data adjusted for seasonal variation. ⁵ Revised. ⁶ Preliminary.

⁷ Ratio of prices received to prices paid for commodities, interest and taxes. ⁸ 1924 only.

Outlook Highlights

(Continued from page 14)

North America and Australia, people in many foreign countries are eating better than at any time since the war ended, according to the Office of Foreign Agricultural Relations. Several countries, particularly in Europe, have been able to increase rations or end rationing of some foods entirely. However, food consumption in most importing countries is still well below normal.

European food production is providing only 3 percent less food than prewar but population growth has added about 10 percent more mouths to feed. Food imports in 1948-49 will need to be larger than prewar to keep consumption, on a calorie basis, as high as 5 percent below prewar. Chief shortages in Europe this year are meats and fats and oils. Grain supplies are up sharply.

The rise in Far Eastern food production has lagged behind Europe. Although up slightly from 1947-48, the Far East continues to need large imports. Before the war, these nations exported more than they imported. Because of inflation and political and military disturbances, food is scarce in many cities.

Early reports indicate that world acreage of winter food crops for harvest in 1949 is larger than last year. Although conditions are not as good as a year ago in all areas, prospects generally are favorable.

Milk Production Rising

Milk production will continue to increase seasonally until June. Prices of dairy products in January compared to those for feeds are more favorable to dairymen than at this time last year, but the ratio is about average. Prices of butterfat in relation to those of beef and hogs was the lowest on record.

With butter production running higher than last year and larger amounts being withdrawn from storage, consumption of butter has been up from a year earlier.

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